

CLAIMS

What is claimed is:

1. A structure for reinforcing a bonding pad connected to at least one conductive layer on a substrate, comprising:

at least one anchor structure for connection to the bonding pad and to the at least one conductive layer.

2. The structure of claim 1 wherein said at least one anchor structure comprises a bonding pad anchor pad for connection to the bonding pad, a conductive layer anchor pad for connection to the conductive layer, and at least one anchor via connecting said bonding pad anchor pad to said conductive layer anchor pad.

3. The structure of claim 1 wherein said at least one anchor structure comprises a plurality of anchor structures.

4. The structure of claim 3 wherein said plurality of anchor structures each comprises a bonding pad anchor pad for connection to the bonding pad, a conductive layer anchor pad for connection to the conductive layer, and at least one anchor via connecting said bonding pad anchor pad to said conductive layer anchor pad.

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5. The structure of claim 1 wherein said anchor structure comprises an anchor ring.

6. The structure of claim 5 wherein said anchor ring comprises a bonding pad anchor pad for connection to the bonding pad, a conductive layer anchor pad for connection to the conductive layer, and at least one anchor via connecting said bonding pad anchor pad to said conductive layer anchor pad.

7. The structure of claim 5 further comprising a plurality of bonding pad bridges and a plurality of conductive layer bridges for connecting said anchor ring to the bonding pad and the conductive layer, respectively.

8. The structure of claim 7 wherein said anchor ring comprises a bonding pad anchor pad for connection to the bonding pad through said plurality of bonding pad bridges, a conductive layer anchor pad for connection to the conductive layer through said plurality of conductive layer bridges, and at least one anchor via connecting said bonding pad anchor pad to said conductive layer anchor pad.

9. The structure of claim 1 wherein said at least one anchor structure lies outside an imaginary crack zone circle circumscribing said bonding pad.

10. The structure of claim 9 wherein said at least one anchor structure comprises a bonding pad anchor pad for connection to the bonding pad, a conductive layer anchor pad for connection to the conductive layer, and at least one anchor via connecting said bonding pad anchor pad to said conductive layer anchor pad.

11. The structure of claim 9 wherein said at least one anchor structure comprises a plurality of anchor structures.

12. The structure of claim 9 wherein said anchor structure comprises an anchor ring.

13. A structure for reinforcing a bonding pad connected to a plurality of conductive layers through a plurality of insulative layers deposited on a substrate, comprising:

at least one multi-level anchor structure for connection to the bonding pad and to the conductive layers, respectively.

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14. The structure of claim 13 wherein said at least one anchor structure comprises a bonding pad anchor pad for connection to the bonding pad, a plurality of conductive layer anchor pads for connection to the conductive layers, respectively, at least one anchor via connecting said bonding pad anchor pad to said conductive layer anchor pads, and at least one anchor via connecting each of said conductive layer anchor pads to an adjacent one of said conductive layer anchor pads, respectively.

15. The structure of claim 13 wherein said at least one anchor structure comprises a plurality of anchor structures.

16. The structure of claim 13 wherein said anchor structure comprises an anchor ring.

17. The structure of claim 13 wherein said at least one anchor structure lies outside an imaginary crack zone circle circumscribing said bonding pad.

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18. A method of reinforcing a bonding pad connected through conductive vias to a plurality of conductive layers deposited on a substrate, comprising the step of:

connecting at least one multi-level anchor structure to the bonding pad and to the conductive layers, respectively.

19. The method of claim 18 wherein said at least one anchor structure comprises a plurality of anchor structures.

20. The method of claim 18 wherein said anchor structure comprises an anchor ring.